

UNITED STATES DEPARTMENT OF AGRICULTURE

Extension Service
Washington 25, D. C.SUMMARY OF EXTENSION SERVICE-BUREAU OF AGRICULTURAL ECONOMICS SEMINAR
ON FARM MANAGEMENT
Washington, D. C., May 8, 1947
H. M. Dixon, Presiding

Introductory Statement. This is the third year a farm management seminar has been held in cooperation with the Bureau of Agricultural Economics. The purposes of the seminar have been outlined as follows:

- A. To report progress in our work to the Extension administrative staff and bureaus and agencies whom we represent, and obtain guidance from them regarding changes in program emphasis and ways to strengthen the work.
- B. To aid in developing closer working relationships between Extension and the research bureaus and agencies which will stimulate research and facilitate the development of more effective outlets for research findings and strengthen both Extension and research.

Since farm tenure extension work is now handled by extension economists in farm management in the Federal office and in many of the States, this phase of the work was included in the farm management seminar. Many of the most pressing problems in this field, of course, are closely related to those in farm management, if not a part of them. It, therefore, does not appear artificial to combine the two.

The educational work in outlook is handled by extension economists in farm management, marketing, and general economics, with the cooperation in most States of subject-matter specialists. For this reason and the added fact that its importance to the entire extension program seemed to justify more time and attention than could be given the subject in the farm management seminar, it seemed desirable to have a special seminar this year for agricultural policy and outlook. This is not to suggest, however, that extension economists in farm management are any less interested in outlook, or will do less work on it.

Farm Management Extension Work, 1946-47^{1/}

During the recent war period there was considerable disruption of farm management extension work here and in the States due to the demand made upon extension economists for other types of work. Since the close of the war, extension economists in farm management have been added by the State extension services at a rapid rate. However, owing to competition for these men from public and private agencies, resignations have been relatively high and the net increase in numbers has not been as great as it would otherwise have been.

At present 41 States, Hawaii, and Puerto Rico have at least one full-time extension economist in farm management. Five States have part-time specialist

^{1/} Prepared by Federal Extension economists in farm management for presentation before farm management seminar, May 8, 1947.

work in farm management, and only two States are without the services of an extension farm management specialist. On the other hand 15 States have three or more full-time men. The 48 States, Puerto Rico, and Hawaii have a total of 120 extension economists working in farm management. Additional men are being added as funds become available and as trained men are located.

Objectives, Methods, and Scope of Work

The primary objective of the farm management extension program is to increase the real income of farm families and raise their level of living through a better understanding of economic forces. More specifically this objective may be stated in terms of helping as many farmers as possible to understand the basic principles of sound farm management and the application of these principles under changing physical and economic conditions. This to the end that they may enjoy levels of living equivalent to those of families in other occupations with similar abilities, efforts, and investments. This involves training in choice and combinations of enterprises, labor utilization and efficiency, timeliness of operation, and the effects of these on the land they control and costs and income from farm operations.

LINES OF EDUCATIONAL ACTIVITY IN STATES To reach this ultimate objective many lines of educational activity are carried on in the States and counties. The more important of these may be summarized as follows:

1. Teaching sound farm business practices, including the keeping of adequate records, and their use in day-to-day management.
2. Encouraging farm families to plan their operations more in advance so as to make fullest use of all available resources, including their land, labor, capital goods, and credit.
3. Improving farm tenure conditions and the security of families on farms.
4. Informing farm people of the important factors to take into consideration in selecting a farm, either to buy or to rent. This is important in assisting farm families to evaluate properly the farms which they consider buying or renting for farming purposes.
5. Helping farmers to understand the elements which contribute to farm land values and to appreciate the relation of land values to present and long-time prices of farm products.
6. Disseminating outlook and economic information which will help farmers to make reliable decisions on adjustments in farming needed to keep the farm business geared to changing economic conditions. Further discussion of outlook work will be found in the outlook seminar report.
7. Assisting young people, particularly those reared on the farm, to choose a profession. More specifically, this involves helping farm boys and girls decide whether they wish to farm or not to farm.
8. Helping young farmers and others understand the various methods

available to one who wishes to get started in farming, and to understand the elements which make it more desirable for one to start as a hired man, a tenant, a part owner, or as a full owner-operator; for instance, the varying amount of capital, experience, and know-how required to enter farming activities successfully by those several means.

State Plans of Work and Educational Activity

Plans of work of State economists in farm management indicate that they are developing extension programs which go directly to the heart of these problems. The relative emphasis varies from State to State depending upon the number of economists available to do the job and the nature of the problems farmers face in each State as the extension economists and county workers see them.

FARM MANAGEMENT PRINCIPLES Assisting farmers to understand the basic principles of sound farm management and their application to the business continues to receive major emphasis in the States. To do this job better, extension economists are utilizing the results of the many types of information available to them. These include, of course, the results of farm management research of various kinds and sources as well as the study and analysis of farm surveys, farm financial records, and enterprise records kept in cooperation with the Extension Service.

FARM RECORDS In many States farm records kept by cooperating farmers provide an important source of local information for the farm management extension program. An analysis is made of records kept by those cooperators, and the results are used for teaching purposes. Farm account work in the States ranges from projects supervised and financed entirely by the State extension office or in cooperation with the experiment stations, to farm management association work where a substantial portion of the cost of operation is borne by the cooperating farmers. For the most part farm management associations employ fieldmen who work under the combined supervision of the State extension or experiment station office and local boards of directors.

The farm accounting program conducted in Ohio over a period of years has resulted in 50,000 farmers obtaining farm record books each year for their own use in analyzing their business. This is one of many examples of the results of State-wide educational work on farm records. About 600 of these are collected, summarized, and analyzed each year to provide background information for educational work among all farmers of the State. Wherever farm records are summarized and analyzed by the States the cooperating farmer receives much assistance from the county workers and specialists. The information thus obtained is made available for use in schools conducted for farmers in the area or on a State-wide basis.

FARM MANAGEMENT ASSOCIATIONS An example of the association type of work can be found in Illinois where 10 farm management associations are in operation, serving approximately 2,100 farmers directly and providing much of the data used in the State-wide farm management educational program. Over 80 percent of the cost of operating those associations is borne by the cooperating farmers. Kansas, Iowa, Minnesota, and Wisconsin are other States operating farm management associations in connection with their regular extension farm account project.

INCOME TAX Closely associated with such State-wide farm record work, extension EDUCATION economists in individual States have carried on educational activities on farm accounting to meet income tax regulations. Several farm record forms have been developed to meet income tax requirements.

Many extension circulars and bulletins have been prepared by individual States or groups of States for use in this educational program. An example of group action in preparing literature to be used in the educational program is the work done by the six New England States in the printing of "Farmers and 1946 Income Taxes." The text was prepared by the Federal Extension office and the Bureau of Agricultural Economics, which was incorporated into the publication carrying the name of each State. Pooling the order materially reduced the costs of printing.

ENTERPRISE In a number of States, extension economists have assisted with enterprise RECORDS management studies. In many cases these studies are made in close cooperation with the subject-matter specialist who most commonly makes the contacts with the farmers and checks the records from time to time. The economist assists in the preparation of necessary forms and in summarizing and analyzing the records.

California, for instance, carried on 47 enterprise management studies in 20 counties in 1946. Each study consists of a group of records on a single farm enterprise in a county or area for one year or crop cycle. Each study is the responsibility of one or more local extension agents who make all cooperative arrangements with farmers. The farm management specialists supervise the work and assist in analysis and preparation of enterprise management reports. These reports are used not only in the county but as a source of farm management and cost information in other areas and for many other programs.

In South Carolina, extension economists have cooperated in summarizing and analyzing several hundred enterprise records each year representing about 20 different enterprises. In Massachusetts, the economists have cooperated with the Milk Control Board in a cost of production study for fluid milk. Two extension bulletins are planned.

Information from farm records, enterprise records, and surveys, together with material supplied from the State experiment stations and the Bureau of Agricultural Economics provides the major sources of all information presented in farm management educational work.

FARM AND HOME Farm and home planning demonstrations and associations are other PLANNING means of assisting farmers to solve their problems. The extension economist has an important part to perform in this extension activity. Several States have established farm and home planning demonstrations. In addition to using demonstrations, Missouri has established 18 balanced farming associations to speed up the progress of the work. Cooperating farmers pay \$50 each, which covers one-half of the cost of operating these associations. Other States are experimenting with farmers supporting the program financially as a means of getting a larger staff to do the job.

Indiana has been experimenting with the idea of a group approach to farm and home planning. This program, which is in the demonstration stage, appears to hold much promise. At present the extension economists are responsible for

demonstrating the procedure preparatory to a full-scale program carried by the entire extension staff. From 20 to 25 young farmers are selected by the county agent, and a series of two or three meetings is held where background information, standard measures of performance, and farm management recommendations are presented. This group is then divided into smaller groups of 5 or 6 each. During the day each of the farms included in one group is walked by the county agent and economist with the farm operator. During the evening these farmers and their wives meet, and with the assistance of the county agent and specialist, prepare on forms provided by the specialist, final plans which they intend to follow. The next day another group of farms is walked and an evening meeting held for this group. Other subject-matter specialists provide assistance to these farmers on special problems by assisting them at general county or community meetings and by using their farms as demonstrations of improved practices. By this procedure the amount of technical assistance per farm is held to about three-fifths of a day.

The balanced farming program in New Hampshire is being carried on primarily with young farmers. In a program being developed in the State, some 25 young farmers have begun plans for developing their farms on a balanced farming basis. Other specialists are cooperating in this program.

In a large number of States extension economists have cooperated with other specialists, supervisors, and county agents in developing farm plans for TVA-ES farm unit demonstrations where the results obtained from the use of TVA fertilizer materials are demonstrated. In some cases rather complete farm plans are prepared in cooperation with the farm operator before the fertilizer material is made available to the farmer. In other cases farm and home plans are worked out with the farm family for the improvement of the farm home as well as for improved management and operation of the farm itself. This work is concentrated in the Southern States, particularly the Tennessee River Valley States, but it has not been limited to them.

LAND TENURE CONFERENCE To broaden the work in land tenure education, a meeting of 10 selected State extension and experiment station representatives was held in Chicago in February under the sponsorship of the Farm Foundation to explore the field and point up important lines of activity. The Federal extension office and the Bureau of Agricultural Economics participated in this meeting. A report of the proceedings has been processed and is designed to assist all States in their land tenure work. At this meeting land tenure education was broken down into lines of activity, and the procedure for carrying on educational work in each line was suggested. The lines of activity were: (1) Farm rental and partnership arrangements, (2) farm ownership and transfer, (3) land values and appraisal, and (4) employer-employee relations.

IMPROVING LAND TENURE The more common lines of work now used to improve land tenure condition include educational work on leasing arrangements, father-son relations, employer-employee relations, and land appraisal schools. Lease forms and leasing bulletins prepared by the experiment station, EAE, and extension workers, designed to fit State conditions, are common tools used by most States in conducting their work in land tenure.

Extension work designed to improve leasing arrangements and landlord-tenant relations is conducted in a number of States at present. In North Carolina,

For the past two years, the work with share croppers has been broadened to include all aspects of farm production and family living. Assistent agents, a man and a woman, have been employed in one county to work with farm operators and their croppers in solving their problems. This work is being expanded to other counties as fast as local need, their experience and know-how will justify.

LAND VALUATION Illinois Extension Service, in cooperation with the Federal Land Clinic, Bank of St. Louis, has held successful district land valuation clinics for leaders throughout the State during the past 2 years. The objective of this work has been to give farmers and farm leaders a knowledge of the steps necessary to arrive at the worth of farm real estate and to teach them the physical and economic factors that should be considered in valuing a farm. Typically, about 50 farm leaders are invited to attend these schools. An actual appraisal of a farm is made by those in attendance, after the soil has been classified by soil technicians and as many facts obtained as possible regarding the productive capacity of the farm.

In Mississippi, a series of 10 one-day farm appraisal clinics was held in cooperation with the State experiment station, the Soil Conservation Service, and other agricultural agencies. One clinic was held in each of the major type-of-farming areas of the State to train agricultural workers and other leaders to understand what determines land values, to draw their attention to the inflationary situation in land prices, and to emphasize the need for guidance and educational assistance needed by farmers in this field. Three popular leaflets bearing on this subject have been printed in the State office for use by county workers.

YOUNG FARMERS Several States are conducting intensive programs designed primarily for young farmers who are getting started in farming or are deciding whether they should farm or go into other fields of endeavor. These programs are built around elements leading to successful farm operation, ways of getting started in farming, land values, capital requirements, and contractual relations. New York has a man devoting full time to the problems of this group.

ADVISORY COMMITTEES County agricultural advisory committees made up of successful farmers are functioning in many counties. Their primary responsibility is an advisory one aimed at assisting returning veterans and returning war workers who wish to reestablish themselves on farms.

Father-son agreement forms and bulletins designed primarily for young farmers have been used extensively. An excellent example of the type of literature prepared for young farmers is a recent publication "Farming Today" prepared by Iowa farm management specialists. Michigan has developed father-son agreement forms which are used extensively in their educational program with these groups. Their work is typical of the work carried on by many of the States.

VETERAN AID The extension economists in farm management in several States are working closely with the State offices of vocational agriculture in assisting with the veterans' training program. They have trained the instructors of veterans in principles of farm organization, farm record keeping, the summary and analysis of farm records, and the development of individual farm and home plans. In addition to training instructors, Minnesota has developed a

procedure whereby the farm records kept by veterans are summarized by the experiment station.

**PRODUCTION
ADJUSTMENT** In most States extension economists have been closely associated with production adjustment studies. They have actively participated in educational work on problems of agricultural adjustment using the results of these studies in the State.

**WORK IN
FEDERAL
OFFICE** The Federal Extension office is working closely with the State economists in the development of their programs. The State extension economists have need for material and information that can be obtained most easily in Washington. The Federal extension economist is the most logical contact for procuring this information. As a result, a great deal of time is devoted to making and maintaining contacts with other bureaus and agencies and otherwise servicing the needs of State extension workers. In addition suggested forms (Farm and Home Financial Planning, and Ten-Year Capital and Inventory Record) and other information are provided States for their adaptation to local conditions and use where they apply.

In all States extension economists in farm management cooperate with other specialists in carrying on the outlook and economic information program. This phase of the work will be discussed in detail in the outlook seminar statement.

Activities with the Bureau and Other Agencies

Extension economists in farm management have many effective contacts with the personnel of the Bureau. Some of these contacts are formal committee arrangements while others are informal personal contacts. Each type of relationship has its value and place in furthering the extension program in farm management.

Extension economists and county agents make constant use of the various research findings of the several divisions of the Bureau. Agricultural statistics is an excellent illustration of information which extension workers use regularly. Extension workers in the county, State, and Federal office are glad to cooperate in every way possible to help make these data more reliable and broaden their usefulness. With this in mind, the Economics Section of the Federal Extension Service gladly accepted an invitation to participate in the two regional conferences held by the Bureau in 1946 to discuss problems, present developments, and desirable future developments of the program of the Bureau.

Extension economists in farm management have met with representatives of the Division of Land Economics of BAE to discuss the opportunities for increased emphasis on land tenure in the economics extension program. It was felt that recent research and other developments in this field had made available materials which should be utilized to carry on an enlarged educational program in land tenure. Steps were taken by this joint group to suggest the lines of activity which might most profitably receive attention in the States. While these discussions were under way, the land tenure conference, which has been referred to previously, was held.

Real estate price trends and the real estate situation are receiving wide publicity throughout the country, partly at least as a result of the close working relationship between the two groups.

Close personal working relations have existed between Extension and the Divisions of Agricultural Finance, and Farm Management and Costs. Income tax regulations, as they apply to farmers and affect their accounting procedures, have received close attention from individuals in the two Bureaus. Extension publications prepared by individual States or cooperating groups of States on income tax regulations and rulings affecting farmers have been reviewed, and suggestions have been offered in cooperation with representatives of the Bureau of Internal Revenue in line with tax regulations and good accounting practices. Individuals in the Division of Farm Management and Costs also assist us with technical questions on farm costs, input-output data, and related information.

In addition to these types of relationships, the staff of the Economics Section has felt free to consult individual members of the Bureau to work out problems of mutual interest. We have often found that valuable time can be economized and farm people served more effectively by going directly to the individual research worker concerned to get the answer to problems that arise.

Research Needs

In view of the rapid adjustments taking place in farming and the increased emphasis on lower cost of production in the period ahead, we need more data on the unit requirements of crops and livestock in order to strengthen the educational program in farm management. Specifically, we need more reliable information on requirements, enterprise efficiency, and results that can be expected with improved practices such as the use of phosphate and limestone in good rotations, the use of improved machinery on crops in the South, the use of insect and parasite control techniques on crops and livestock, and the effects of increased mechanization on size of farms, farm organization, and labor requirements.

In many areas extension work in farm management could go forward much faster if reliable data were available on normal yields of crops and production of livestock that may be expected with the use of improved practices. These data are needed by type-of-farming areas within a State. In many cases crop yield data by soil associations would be helpful. In connection with these data, standards of production will be more useful if available by subareas. This material can be best prepared by research people.

Closely associated with such needs are those for the distribution of labor requirements through the year by enterprises based on systems of farming, size of operating unit, and types of equipment used. Labor needs in relation to labor available on the farm and a fairly uniform labor load through the year are two important considerations in farm planning. Here again the requirements vary within relatively small areas so that data are needed by type-of-farming areas if not by soil associations.

In many of the lines of farm management extension activity we need information on typical farm and ranch set-ups to measure adjustments, relations, balance, and other significant factors. Further scientific information is needed in selecting typical farm organizations.

During and immediately after the war some study was given to opportunities in farming, but additional research is needed in this field with reference to

particular groups and as applied to particular areas.

Closely related to this line of research, and possibly a part of it, is the need for more information on capital needed to get started in farming. The North Central regional land tenure committee publication on "Capital Needed to Farm In the Midwest" and others provide information along this line. However, there is need for more recent up-to-date information on the amount of capital required to get started in the many different types of farming either as an owner or as a renter. There is also need for information on capital needed to make major shifts in farming such as shifting from cotton farming to general crop and livestock farming in the deep South.

There is need for more information, too, on the processes by which farmers acquire ownership, including the processes by which they accumulate the necessary capital to make the initial payment. Such studies should result in more information on purchase contracts, mortgages, deeds, and the like, and their place in the process of attaining the status of farm ownership.

Information should be brought together and, if necessary, studies should be made to get the facts on --

- (1) State laws of descent as they apply today.
- (2) Practices used or that may be used by farmers in the transfer of farms within the family.
- (3) Inheritance, estate, and gift taxes that apply (State and Federal).
- (4) Present situation regarding estate settlements, court procedure, and other legal aspects of farm transfer within the family.
- (5) Results of various methods of transfer within the family.

Additional research in the field of risk, including measuring risk, risk bearing, and equitable distribution of those costs would open up possibilities for extension work in this field where little educational work is carried on at present.

We have recognized the tendency to capitalize into land values the income from such sources as conservation payments and adjustment payments; we have discussed the long-time effects of capitalizing into land prices the value of acreage allotments of specific crops. The program of tobacco acreage allotments and marketing quotas, which are assigned to individual farmers, is but one example. There is need for further information in this field.

Additional research is needed on changes in the type and amount of production likely to result from different levels of conservation farming and from the general adoption of balanced farming in a given area or region.

Study of the effectiveness of methods used in conducting an educational program in farm management, including the most efficient methods of increasing the effectiveness and coverage of this work, is urgently needed.

Finally there is need for additional information on methods of measuring the managerial ability of individual farmers and its effect upon farm income. Most recommended farm practices are made with satisfactory managerial ability assumed. In many instances, this is not the case and results are disappointing. Effective accounting of managerial ability, however, cannot be made at present because of the lack of adequate methods of measurement.

Status of Production Adjustment Research

by Neil W. Johnson
Bureau of Agricultural Economics

Agricultural extension workers are familiar with the production adjustment study in which all 48 States have cooperated with the Department of Agriculture for the past 6 years. Extension economists have been members of the State Production Adjustment Committees that prepared State reports; and in a number of instances have taken the lead in this work. The project afforded a means of determining how each State could best contribute to the Nation's needs for food and fiber in a period of emergency and served as a vehicle for reflecting the judgments of the State agricultural extension and research workers in development of agricultural programs for the year ahead.

In some States the work was undertaken by type-of-farming areas, the State totals being aggregates of the more detailed work. In other States lack of funds and personnel made necessary preparation of State reports on a much less intensive basis. All States recognized the value of the work in helping to develop national agricultural programs during our period of greatest emergency. Its value for use within the State and particularly in connection with the localized farm and home planning programs appears to vary almost in proportion with the time and effort taken in developing the report within the State.

Last November a committee of seven land-grant college representatives spent a week in Washington advising with BAE personnel on our program of farm management research. This group suggested an annual appraisal of production adjustments for the year ahead as a basis of strengthening production outlook work both nationally and in the States. The report of this committee has been circulated among all land-grant colleges, and reactions have been obtained from most States. About a third of the States indicated active interest in continuation of the work. A somewhat larger group of States were less interested in the national appraisal but indicated that they would go along if other States did in order to complete the national picture. A small number of States wish to discontinue the annual appraisal.

We have recently reported these reactions to the States and have suggested that we believe it impracticable to attempt a Nation-wide project in production adjustments this year. We have suggested that within the limits of our available resources and personnel we would like to continue working with those States that have found the work to be of definite value and that plan to continue the project, even though the work is not carried out on a national basis. We suggested that the BAE could continue to provide a preliminary outlook framework late in June. We also suggested that since it would now be impossible to summarize the project nationally, uniformity of procedure in doing the work would be less essential.

Interested States were invited to experiment with new approaches that might be more effective in strengthening the State outlook program.

In the event that BAE is required to supply background information for a 1948 goals program or to assemble production outlook materials, we indicated the desirability of working briefly and informally with State people to provide a basis for statements for which BAE would take the responsibility. We have not yet had time to obtain reactions from the States to these suggestions. By May 15, about half the States had replied, and of these nearly 60 percent wished to continue the annual appraisal this year. We hope that in the experimental approach that is likely to be undertaken this year, ways will be found of making production adjustment research of greater value in localized farm and home planning for the year ahead and over the longer pull.

The foregoing statement refers to the annual appraisal of production adjustments for the year ahead. In the fall of 1944, the States cooperated in a study of desirable longer-time adjustments in farming to provide a better framework within which year-to-year adjustments could be made. Considerable emphasis was placed on the possibilities in more complete utilization of the better practices in crop and livestock production and in land management. Subsequent discussions indicate that a large majority of the States feel such appraisals are worth while when made at appropriate intervals. Perhaps a study of this type could be considered about the time data become available from the next census of agriculture.

Effective Organization and Operation of Farms

by Carl P. Heisig
Bureau of Agricultural Economics

Farm and home planning requires an intimate knowledge of farming and adequate information on the organization and operation problems of farms of specific sizes and types in the particular setting in which the farms are found. To help farmers appraise the alternative opportunities in farm adjustments, extension and research workers need detailed information on labor requirements for each enterprise, machinery performance rates, livestock feeding rates, and much other information. These are the necessary tools for good farm planning.

Such information can usually be obtained only by detailed research studies of the organization and operation of farms in the different type-of-farming areas. Studies of this type provide the basis for an understanding of the extremely variable operational situations in farming in the different type-of-farming areas and from farm to farm. If properly conducted they can provide the many items of information needed for farm and home planning, and also can provide the analysis necessary to point the way toward desirable adjustments and improvement in use of farm resources and in levels of farm incomes.

Studies of organization and operation of farms have been conducted for many years by the Division of Farm Management and Costs, usually in cooperation with the various State experiment stations. But many of the data, particularly on labor requirements and machinery performance rates, are out of date, and new studies are needed. While these studies are necessarily made in local areas, an attempt is made to select areas representative of major-area situations. A

well-selected pattern of such detailed studies should provide the basic primary data that would bring us up to date on many farm management problems.

In addition to providing farm management data for farm planning and other purposes, we occasionally have need to summarize these individual research results into broader regional and national analyses. For such use there is an obvious need for location of specific research projects so that they will fit into a regional or national pattern, and timing the work so that a number of broadly similar projects will mature at approximately the same time.

For instance, we are now getting under way a study of adjustments and effects of mechanization in major sugar beet areas, with cooperative projects planned in Montana, Colorado, California, and Michigan. These four area studies should provide specific farm management data for farm planning work in those areas, and in addition, when supplemented with other data, should provide the basis for a comprehensive report of sugar beet production in the United States. Such over-all analyses should contribute to a better understanding of local area problems, particularly to place the local area problems in their proper perspective relative to regional and national situations.

Proper servicing of an expanded program of farm and home planning to provide the needed information for adequate appraisal by farmers of alternative opportunities for income improvement probably will require expanded research activities on the organization and operation problems of farms in many type-of-farming areas and different production situations.

Costs and Returns on Farms by Type, Size, and Location

by Wylie D. Goodsell
Bureau of Agricultural Economics

General conditions of prosperity or of adversity are felt with varying degrees of intensity from farm to farm and from one locality to another. Operators of large commercial family farms of a given type may be in a position to take advantage of new practices, new machines, new varieties of crops, volume purchases of production supplies, and many other means of increasing production or reducing costs to widen the margin of profit. Smaller farms of the same type may not as readily make these changes, and their output may be so small and their costs so high that even wartime prices are insufficient to yield a satisfactory income.

Additional information concerning the specific conditions under which farming is carried on by type, size, and location of farm is needed as a basis for measuring the effects of changing conditions on production costs and net returns to different groups of farmers.

The Bureau of Agricultural Economics has developed a project to continually study the effects of these shifts in production and changes in farm organization, farm practices, efficiencies in production, mechanization, prices, costs, and adjustments on farms by type, size, and location and the economic well-being of families operating these farms.

Those studies are designed to give annually complete farm business analyses including size of farm, acres, yields, and production of crops, numbers of live-stock, livestock production, production practices, and requirements including extent of mechanization, feed, seed, and labor used, sales, expenditures, income, and cost of production by major types and sizes of farms.

The studies have local application in that the analyses are based upon common types of farms within counties comprising local type-of-farming areas. Common sizes of farms within each type of farm are studied so that the effects of farm practices, mechanization, production efficiencies, costs, and income by size of farm can be measured effectively.

The same general procedures in obtaining basic data and in analyzing the information are applied alike in all areas so that direct comparison of income, costs, and related items can be made from area to area as well as between sizes of farms.

The studies are kept current to provide important information showing changes and adjustments that have actually taken place over time. The historical picture together with current analyses provide a background and a fund of information for farm and home planning, and for the extension worker in his general educational program.

Results from some of these studies are now available. Work is well along in other areas and plans have been made for undertaking analyses in still other areas. See F.M. 55, "Typical Family-Operated Farms, 1930-45, Adjustments, Costs, and Returns" for some results from these studies and for map showing location of areas where studies are being made.

Personnel in some land-grant colleges is actively participating in this work. Plans are being developed as rapidly as possible to extend cooperation to more colleges. Representatives of several land-grant colleges after a recent conference on this work unanimously recommended that this work be expanded. In their opinion this program of work, in addition to yielding information on farm organization, production, income, expense, and costs on farms by type, size, and location, provides basic statistics and a framework for a wide variety of research projects and extension programs in farm management and general agricultural economics both within the States and for regional and national purposes.

The Bureau has access to and facilities for analyzing mass data relating to agriculture. The colleges are in an excellent position to collect or assist in the collection of certain data on local farm production requirements and related items which can be obtained satisfactorily only through surveys or accounting records designed for the purpose. If uniform procedures and techniques are employed throughout, much information can be exchanged among the States and the Department of Agriculture and considerable time, labor, and money can be saved.

Making Farm Technology Pay

by M. R. Cooper
Bureau of Agricultural Economics

Technological developments in agriculture over the last quarter century have increased physical efficiency in farm production by almost 30 percent. Each average unit of farm product is now produced with only 70 percent as much labor as was required at the conclusion of World War I.

Farm mechanization has been responsible for about half of this saving in labor. Increased crop production from an acre of land and increased production per animal have accounted for about 30 percent of the total labor savings. Greater use of improved seeds and plants, better and more timely cultural practices, use of more fertilizers, improved animal breeding, feeding, and care, and better control of animal and plant diseases and insects are some of the important reasons for more production per acre and per animal. Labor savings because of changes in farming practices, elimination of some time-consuming operations, increased efficiency through new and expanded custom operations, and work simplification have accounted for most of the remaining savings of 20 percent.

All farmers have not benefited equally from these developments. Farmers with the larger farms, level and productive lands, and with wide market outlets probably have benefited most. Roughly, about one-third of our 6 million farmers fall in this group. Another one-third are at the other end of the scale, being operators of self-sufficing or near self-sufficing farms, part-time farms, or rural residential units. Farms in the remaining one-third are scattered over a wide range between these two groups.

In addition to broad regional and national research phases of farm technology, research programs need to be pointed definitely toward the solution of economic problems of individual farmers throughout the income range. Greater attention needs to be given to technological advances that will help our smaller farmers who will continue to farm with limited land resources. We need to study the economic possibilities of equipping these smaller, moderately productive farms with proper sizes and types of machines. We need to know more about how smaller farmers can organize and operate their business to obtain economic advantages shared by larger farmers in the use of expensive machines and purchase of farm supplies.

On many small subsistence farms improvement in income may be a matter of finding more production resources for the family. Often these will have to be off-farm resources; part-time employment in nonfarm industry may be the most practical adjustment in many cases.

Problems of the smaller family farms are stressed here only because of their greater difficulty in taking advantage of some important technological developments. There still is much room, however, for improvements on larger farms, as technological developments continue. Some problems may be more critical on the larger farms. For example, most of the hired labor is used by our larger farmers, and as farm wage rates are likely to continue relatively high, these operators have the problem of finding economical ways of increasing the productivity of hired workers.

Greater attention should be given to the capital investment needs of all groups of farmers, and to the economics of farm building construction and maintenance. With the widespread use of farm electricity, operators of farms of all sizes and types will need assistance in adjusting their farm and home operations for economical use of electric power, machinery, and appliances.

Recent Developments in Farm Tenure^{1/}

by V. Webster Johnson
Bureau of Agricultural Economics

Farm tenure has an important place in extension work because satisfactory tenure conditions are necessary for the development of conservation programs, stable farming systems, and the welfare of farm families.

Farm Tenure Situation and Trends

The Bureau is devoting considerable effort to an analysis of the tenure situation and trends. These studies show that the Nation is closer to achieving the farm ownership ideal than at any time in the past 75 years. More farmers than ever before -- almost 4 million -- own part or all of the land they operate. Farm owners' equities have jumped to 89 percent of the total value of their real estate. There are fewer tenants (1.9 million) than at any other time since 1890 -- a million fewer than the peak of 2.9 million reached in 1935.

Although this situation is relatively satisfactory, several trends have already begun which may cause serious difficulties in the years ahead. First, farms are getting larger and fewer. To some extent, this trend means more adequate sized family farms. Second, capital requirements for beginning farmers are increasing, making it more difficult for prospective owners to accumulate sufficient capital to purchase a farm. Third, farm real estate values are becoming dangerously high -- 92 percent above the 1935-39 average. Fourth, farm mortgage debt is now increasing, with about one-third of current purchasers going into debt for 50 percent or more of the purchase price. Fifth, customary rental arrangements frequently hinder desirable adjustments in farming systems in keeping with soil conservation and improved methods of farm production. Sixth, the transfer of farms from one generation to the next within families frequently results in the breaking up of farms as going concerns, in excessive mortgage indebtedness of the remaining heir in buying others' interests, and in misuse of land arising from estate settlements.

Acquiring, Maintaining, and Transferring Farm Ownership

The Nation-wide farm ownership survey now under way is directed towards finding out who owns the Nation's farms, how farms are owned, how farm ownership is acquired, and owners' plans for transferring farms. Results of this survey

^{1/} For a statement of proposed land tenure extension activities, see "Improving Farm Tenure, An Agricultural Extension Program" Purdue University, May 1947, which summarizes the Land Tenure Extension Meeting held February 4-6, 1947, sponsored by the Farm Foundation, Chicago, Ill.

are being summarized into a national report and two regional reports, one for the North and one for the South.

An unusually large number of farm owners and their prospective heirs are now searching for better ways of transferring the home farm. The problem of transferring a family-sized farm to several children while providing for the parents' security is not easy. Some of the alternatives open to parents' and their prospective heirs are: Father and son farm transfers, wills, annuities, and bonds of maintenance. In case owners do not provide for transferring their farms during their lifetimes, their property is distributed after death according to State laws of descent and distribution, which are frequently not well suited for farm conditions. Further studies of these arrangements are being made in cooperation with State Experiment stations in Michigan, Wisconsin, and Virginia.

Many tenants, laborers, and rural youth do not inherit land or receive financial aid from their parents. For these prospective owners, other ways of achieving ownership must be found. Use of credit, different types of credit arrangements such as better purchase contracts and more advantageous mortgage terms including prepayment, amortization, and long-term provisions, are being studied, in cooperation with States.

Rental Arrangements

State tenure laws set the limits within which individual farm operators and landlords may exercise freedom of action to alter tenure conditions. It is in recognition of this need that the BAE has undertaken a series of cooperative studies with the State experiment stations, covering the legal aspects of farm tenure. Several of these studies have been completed, and the results are available for discussion meetings to acquaint farmers with basic tenure laws.

Current studies of landlord-tenant relations give emphasis to leasing terms and provisions whereby tenants and landlords may share equitably the benefits from major farm improvements.

General Tenure Improvement Activities

More general studies of tenure conditions have been carried on over the past several years by the Interbureau Working Group on Farm Tenure and the four Regional Land Tenure Research Committees comprising 28 States.

Reports of these studies as well as the report of the Chicago Tenure Extension Meeting mentioned earlier, contain valuable information for developing extension work in farm tenure.

Opportunities in Cost Reduction

by Sherman E. Johnson
Bureau of Agricultural Economics

Two ways by which net incomes to farmers can be increased are: (1) Increasing prices for products sold, and (2) reducing the cost per unit of output. Cost reduction achieved by adoption of improved techniques means increasing the volume of output per worker and per farm. Frequently it also results in a larger total output. Therefore, the full benefits of cost-reducing adjustments in agriculture can be obtained only under conditions that provide a large market for farm products.

If market outlets can be maintained at high levels the cost reduction route seems promising for many farm products. Meat and milk, fruits and vegetables have definite possibilities of market expansion if they can be sold at prices proportionate to consumer purchasing power. Larger consumption of these products would promote improved diets. And producing more meat and milk would facilitate conservation because roughage-consuming livestock use more hay and pasture. Shifts toward these commodities also would relieve pressure on other products that are likely to be in oversupply.

If higher prices were depended upon to promote shifts toward milk, meat, fruits, and vegetables part of the potential market would be cut off because consumers buy much less of these products if prices are high in relation to consumer purchasing power. On the other hand, if costs of producing these products can be materially reduced, and especially if distribution margins can also be narrowed, markets can be opened up that are unprofitable at present cost levels.

Agricultural workers frequently have assumed that farmers' costs are fixed by market forces and that nothing can be done about them. But although farmers have little control over cost rates, the output of farm products per unit of cost goods can be increased on many farms. And in that way farmers can increase or maintain net incomes by stepping up the output per man and per farm. Costs in terms of the physical quantities used per unit of production were reduced about 30 percent from the years 1920-22 to 1942-44. Farm operating expenses would have been about 3 billion dollars higher in the later period if the same costs per unit had prevailed as in 1920-22.

Because cost rates for hired labor and the equipment and materials bought by farmers will tend to remain high even if prices received for farm products shift to lower levels, it is all the more important to reduce the quantities used per unit of product. This is the core of the technology problem for individual farmers. Studies are needed which compare costs and returns from improved vs. prevailing techniques by types and sizes of farms. Such studies can then serve as guides in farm and home planning.

The greatest opportunities for gains from cost reduction are in the areas that have been bypassed in the march of technology. For example, farm production per worker in the 13 Southern States was only about 60 percent of the national average in 1944. Tremendous progress in cost reduction would be required to bring production per worker in these States up to the present national average.

Market outlets for high volume production are required to realize the full benefits of cost reduction; also nonfarm employment for workers no longer needed in farming. But farmers themselves can dissipate a larger part of their potential gains from cost reduction by bidding up the price of land to the point where high land costs will offset the reductions that are achieved in other costs.

Summary of Discussion Following Prepared Statements

An interesting and extended discussion followed the presentation of the foregoing statements. We have summarized briefly below the more pertinent additional comments.

L. W. Schruben: I am interested in the suggestion on page 10 that more research is needed on methods of measuring managerial ability.

Carl Heisig: We had a long discussion on this question at the Chicago conference of the North Central Farm Management Research Committee in April. We agreed that it was a tremendously difficult field in which to do research, and the general conclusion was that to evaluate properly the management factor in farming we needed to get some capable psychologist to work in the field first, to develop some means of measuring innate managerial ability and those qualities of management which individuals pick up through education and other training. We need assistance on how to measure and what to do about the human factor. The conference, however, did not agree to embark upon a research project. It was agreed that the members should talk to their local psychologists and explore the possibilities of interesting these scientists in working on the problem.

Shorman Johnson: We had quite a lot of discussion last year on this subject, and we were convinced that if we were going to get anywhere in the field, it had to be a joint project between farm management and psychology. The early work in Minnesota was to some extent cooperative with psychologists. W. W. Wilcox was convinced they went about as far as they could with the progress psychologists had made at that time. I am interested in the potential use of research results. In the South there are some areas where twice as many youth are growing up on farms as can find occupation in farming. If we could develop some criteria that could be used in high schools and 4-H Clubs that would guide those youth in determining their adaptability to farming and to other occupations, we would be rendering the greatest service we possibly could.

Mary Rokahr: Reference should be made to Dr. Immer's work in Michigan. He is doing research on a guide for developing managerial abilities.

S. Johnson: That leads us to the question to what extent a man of C-grade ability for farming can become a B-grade farmer. If we could show a potential C-grade farmer how he could as easily become a B-grade manager in some other activity, we might do him real service and help society too.

Heisig: If we could determine these levels of ability, then you could direct C-grade education to the A-grade farmers and the B-grade education to B-grade farmers,

Luka Schruben: Exactly! That would enable us to do more effective teaching.

S. Johnson: The peanut study mentioned by Mr. Hoisig as illustrative of local area studies is a cooperative study with BPI and State soils specialists to tie up peanut yields with soil association areas. A similar study is being made with sweetpotatoes in South Carolina.

We do not have the resources even in cooperation with States to keep up to date on the input-output relations that you need in farm and home planning. In planning our research program we are attempting to do the best job we can in cooperation with States by keeping up to date in the major type-of-farming areas.

M. L. Wilson: Are these things largely available? Do the extension specialists know these things you say they need to know?

S. Johnson: No, I do not think the information is available. They should know them by all means. We should get some of this information out more extensively than we have in the past. I do not think we need to keep detailed cost records in all cases. We can get localized records with less detail than we have in the past. Then we can go to case studies of farms representative of certain groups in frequency distribution.

The people who were in here last fall from State departments of agricultural economics were convinced of the importance of that. But there was concern about how they were going to get information needed to keep up with their farm and home planning or balanced farming work.

It seems that there are two things the expert can help the farmer with on his farm and home planning. One is the simplified and organized technique with which to do the farm and home planning; the other is with applicable farm management information we have been talking about for the type-of-farming area or subarea. When it comes to the question of making a decision in his farm planning regarding the profitability of shifts from hand methods to mechanization in the South, for instance, that gets out of the farmer's own experience. That is where he needs some outside information to help him think through the results of these changes.

M. L. Wilson: That is ordinarily rather difficult information to get or to appraise. However, those States getting out guidebooks for individual farm and home planning are bringing together a considerable amount of the unit requirement data needed. They are getting this data in the best shape they can and for all practical purposes, in the form of the recommended practices for that State or region. Probably if you had a big research program you would not change the practices in the books by a very large percentage.

S. Johnson: These books cover a relatively small part of the country.

M. L. Wilson: If Extension really worked on the farm and home planning basis we could develop it Nation-wide so that guidebooks would be available for all States and all areas within the States.

Summary

by M. L. Wilson
Director of Extension Work

A State extension director tells me that Extension now has its "second chance". He thinks the second chance is to "go to town" in a big way on farm and home planning. I, too, really believe that. It is too bad there is not an assistant county agent in every county who gives full time to farm management.

I think we have not yet developed the process by which we can do farm and home planning on a big scale. Fifty farms a year won't do it. That is about what it is in Missouri where they have an association of farmers who pay a portion of the cost. It is in the demonstration stage. What we need urgently is research that will show us how we can do more than 50 farms per year per man. We are making progress, but we still have some distance to go in developing a procedure for doing farm and home planning on a much broader scale.

One question I would like to ask is the possibility of starting with Neil Johnson's bulletin and going as far as we can with farm people at the present stage of their knowledge and thinking. Then, as they developed those plans into action and developed their own thinking, we could go further with the farm and home plan. You do this and grow. The central idea in education is growth, not that you do it all at once. Thus there would be at the end of a 5-year period, 500 farms in the county on which there were very good farm and home plans, all of which had been developing and perfecting over a period of 5 years.

Just prior to the war Extension people and others in Alabama were using a simplified and streamlined farm-planning procedure known as the Alabama Plan. While all the agencies cooperated in helping farmers develop plans for their individual farms, the Agricultural Conservation Program made conservation payments on the basis of the plan and progress made through the year. It was a long-term plan which covered a 5-year period, including the conservation activities, the farm organization, and related facts. I think that was all dropped in 1941. I believe that plan should be taken out and dusted off now to see if it offers suggestions that will be helpful in our present need. Some pilot counties also should be set up for pooling all the best ideas we can get wherever we can get them for the purpose of trying out ways of developing mass production of farm and home plans by farm people.

There has been great growth and development by farmers. There are many farmers now with whom the idea of pooling the available information on practices and principles of organization into a well-rounded logical whole has tremendous appeal. Our problem in the Extension Service is not to sell or demonstrate or win converts to farm and home planning. It is finding techniques to meet the demand that is there.

We have heard some criticism of duplication of work and lack of coordination among Federal agencies. The most effective way to solve this problem of duplication in the counties and bring about coordination of Federal agencies is through individual farm and home planning. It would be very helpful if the pilot county studies that were planned for the seven counties before the war could be started again and point the way to a unified approach to farm and home planning.

Selected Land Tenure References

Publications Available

1. "Tenure Changes in the South" by Max M. Tharp
Agricultural Situation, Vol. 31, No. 5, May 1947
2. "Farm Tenancy at Low Ebb" by Max M. Tharp
Agricultural Situation, Vol. 31, No. 3, March 1947
3. "How Big Is The Farm Business?" by Elco L. Greenshields
Agricultural Situation, Vol. 31, No. 3, March 1947
4. "Farms Are Getting Larger and Fewer" by Elco L. Greenshields
Agricultural Situation, Vol. 31, No. 1, January 1947
5. "Current Developments In The Farm Real Estate Market," USDA BAE,
April 1947
6. "Transferring Farms Within Families" by John F. Timmons
Land Policy Review, Vol. IX, No. 4, Winter 1946
7. Studies of legal aspects of landlord-tenant relations published by
the following States: Iowa, Kentucky, Oklahoma, Kansas, North
Dakota, Oregon, Washington, Ohio, Illinois, and Missouri
8. "Better Farm Leases" by Marshall D. Harris, Max M. Tharp, and
Howard A. Turner, Farmers Bulletin No. 1969, USDA, June 1945
9. "Institutional Obstacles to Land Improvement" by John F. Timmons
The Journal of Land and Public Utility Economics, Vol. XXII,
No. 2, May 1946
10. "Farm Tenure Improvement in the United States" by the Working
Group on Farm Tenure of the Interbureau Committee on Postwar
Programs, USDA, December 1945
11. "Report of Committee on Operator Ownership and Tenure Improvement"
by the Subcommittee of the Secretary's Policy and Program
Committee, Preliminary, USDA, April 1947
12. "Improving Farm Tenure in the Midwest," Illinois Agricultural
Experiment Station Bulletin No. 502, June 1944
13. "Improving Farm and Ranch Tenure in the Northern Plains," Montana
Agricultural Experiment Station Bulletin No. 436, July 1946
14. "Graphic Summarization of Farm Tenure Based on 1940 Census," by
Max M. Tharp and Howard A. Turner, USDA BAE, April 1946

Recent Farm Management Publications Available
From Bureau of Agricultural Economics



FB 1961 - Getting Started in Farming. By Martin R. Cooper

FB 1962 - Useful Records for Family Farms. By Samuel W. Mondum

FB 1965 - Planning the Farm for Profit and Stability. By Neil W. Johnson

FB 1966 - Part-Time Farming. By Earl H. Bell and Orlin J. Scoville.

FM 44 - Work Performed and Feed Utilized by Horses and Mules. By A. P. Brodell and R. D. Jennings

FM 46 - Number and Duty of Principal Farm Machines. By M. R. Cooper and A. P. Brodell

FM 49 - Harvesting the Corn Crop. By A. P. Brodell

FM 57 - Harvesting the Hay Crop. By A. P. Brodell, T. O. Engbretson, and Charles G. Carpenter

FM 59 - Farm Labor Requirements in the United States. By Reuben W. Hoch

FM 66 - Harvesting Small Grains and Utilization of Small-Grain Straw. By A. P. Brodell, J. W. Birkhead, and J. H. Peters

-- - Feed Consumed by Livestock, 1941-42, by States. By R. D. Jennings.
(unnumbered)

FM 47 - Changes in Hay Production in War and Peace. By Neil W. Johnson

FM 48 - Wheat Production in War and Peace. By Carl P. Hoisig, Ernest R. Ahrendes, and Della E. Merrick

FM 51 - Feed Grains and Meat Animals in War and Peace. By C. W. Crickman

FM 52 - Cropland Use and Soil Fertility Practices in War and Peace. By Donald B. Ibach

FM 53 - Farm Production in War and Peace. By Glen T. Barton and Martin R. Cooper

FM 58 - Changes in Farming in War and Peace. By Sherman E. Johnson

FM 61 - Dairying in War and Peace. By Olav Anderson

FM 55 - Typical Family-Operated Farms, 1930-45, Adjustments, Costs, and Returns. By W. D. Goodsell, R. W. Jones, and R. W. Bierman

FM 56 - Typical Family-Operated Farms, 1930-45, An Historical Look to the Future. By R. W. Jones and W. D. Goodsell.

FM 68 - Farm Costs and Returns, 1945 and 1946 -- Family Operated Farms in Six Major Farming Regions. By R. W. Jones.